LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1-6. (Cancelled)

7. (Currently amended) ~~The expendable container in accordance with claim 1~~An expendable container capable of measuring a residual quantity of stored expendable, the expendable container comprising:

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto;

a detection signal generation circuit configured to charge and discharge the piezoelectric element, and generate a detection signal including cycle information, the cycle information representing a cycle of an output voltage wave of the piezoelectric element after the discharge; and

a control module configured to control the charge and the discharge of the piezoelectric element by the detection signal generation circuit, wherein

the detection signal generation circuit comprises:

a comparator configured to compare a voltage of the output voltage wave with a reference voltage for residual quantity detection, and generate a pulse according to a result of the comparison; and

a signal generator configured to generate the detection signal in response to the generated pulse, wherein

the control module is capable of varying the reference voltage for residual quantity detection,

the expendable container further comprising:

a non-volatile memory configured to store setting information on the reference voltage for residual quantity detection, the setting information on the reference voltage for residual quantity detection representing a relation between the reference voltage for residual quantity detection and piezoelectric element characteristic information indicative of a characteristic of the piezoelectric element,

wherein the control module is capable of setting the reference voltage for residual quantity detection according to a given piece of the piezoelectric element characteristic information and the setting information on the reference voltage for residual quantity detection.

8. (Original) The expendable container in accordance with claim 7, wherein

the piezoelectric element characteristic information is a rank selected among multiple ranks according to a measurement of the characteristic of the piezoelectric element, and

the control module is configured to set the reference voltage for residual quantity detection in response to the selected rank.

9. (Currently amended) ~~The expendable container in accordance with claim 1~~An expendable container capable of measuring a residual quantity of stored expendable, the expendable container comprising:

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto;

a detection signal generation circuit configured to charge and discharge the piezoelectric element, and generate a detection signal including cycle information, the cycle information representing a cycle of an output voltage wave of the piezoelectric element after the discharge; and

a control module configured to control the charge and the discharge of the piezoelectric element by the detection signal generation circuit, wherein

the detection signal generation circuit comprises:

a comparator configured to compare a voltage of the output voltage wave with a reference voltage for residual quantity detection, and generate a pulse according to a result of the comparison; and

a signal generator configured to generate the detection signal in response to the generated pulse, wherein

the control module is capable of varying the reference voltage for residual quantity detection, wherein

the control module controls has a test mode to control the detection signal generation circuit to measure an output voltage of the piezoelectric element after a preset time period has elapsed since a last charge or discharge operation of the piezoelectric element, and also to control the detection signal generation circuit to generate a failure detection signal according to a presence or absence of a specific peak where an output voltage wave of the piezoelectric element is higher than a reference voltage for function check.

10. (Original) The expendable container in accordance with claim 9, the expendable container further comprising:

a non-volatile memory configured to store setting information on the reference voltage for function check, the setting information on the reference voltage for function check representing a relation between the reference voltage for function check and piezoelectric element characteristic information indicative of a characteristic of the piezoelectric element,

wherein the control module is capable of setting the reference voltage for function check according to a given piece of the piezoelectric element characteristic information and the setting information on the reference voltage for function check.

11. (Original) The expendable container in accordance with claim 10, wherein

the piezoelectric element characteristic information is a rank selected among multiple ranks according to a measurement of a characteristic of the piezoelectric element, and

the control module is configured to set the reference voltage for function check in response to the selected rank.

12-13. (Cancelled)

14. (Previously presented) A computer-readable recording medium, the medium storing a computer program for causing a computer to control an expendable container to set a reference voltage for measuring a residual quantity of stored expendable, the expendable container being capable of the measuring, wherein

the expendable container comprising:

an expendable tank configured to store the expendable and has a piezoelectric element attached thereto;

a detection signal generation circuit configured to charge and discharge the piezoelectric element and generate a detection signal including cycle information, cycle information representing a cycle of an output voltage wave of the piezoelectric element after the discharge;

a control module configured to control the charge and the discharge of the piezoelectric element; and

a non-volatile memory configured to store setting information and residual quantity information, the setting information representing a current setting of the reference voltage for residual quantity detection, the residual quantity information representing whether the residual quantity of the expendable is greater than a preset level,

the computer program for causing the computer to carry out the functions of:

(a) reading out the setting information and the residual quantity information from the non-volatile memory;

(b) setting the reference voltage for residual quantity detection, based on the setting information;

(c) confirming that the residual quantity of the expendable is greater than the preset level, based on the residual quantity information;

(d) generating a detection signal including information representing a cycle of a remaining vibration of the piezoelectric element after the discharge, in response to the confirmation;

(e) receiving the detection signal, and determining whether the residual quantity of the expendable is measurable, in response to the received detection signal;

(f) setting a different voltage from the current setting to the reference voltage for residual quantity detection, and returning a process to the function (d), in response to the determination that the residual quantity of the expendable is immeasurable; and

(g) recording the setting information representing the current setting of the reference voltage for residual quantity detection into the non-volatile memory, in response to the determination that the residual quantity of the expendable is measurable.

15. (Cancelled)